

RF ATTITUDE MEASUREMENT SYSTEM AND METHOD

ABSTRACT OF THE INVENTION

A simple RF system tracks a missile, bullet or artillery round and determines the instantaneous attitude of the spinning projectile while in flight. The system is particularly useful in command-guided weapons systems where line-of-sight is maintained from the launch platform to the target. The system includes a first pair of linearly polarized transmit antennas spaced apart on the projectile for transmitting a signal and a harmonic of that signal. A receiver on the launch platform determines the roll angle and either the yaw or pitch angle from the received signals. To determine the remaining angle, either the receiver samples the received signals ninety degrees out of phase or a second pair of transmit antennas are mounted on the projectile, preferably ninety degrees from the first pair, for transmitting another pair of harmonic signals.